

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re: Patent Application of :
Sean A. cCarthy, *et al.* :
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 :
Appln. No.: Not yet assigned :
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Filed: January 19, 2001 :
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For: NOVEL GENES ENCODING PROTEINS :
HAVING PROGNOSTIC, DIAGNOSTIC, :
PREVENTIVE, THERAPEUTIC, AND : Attorney Docket
OTHER USES: : No. 210147.0065/65US

**STATEMENT TO SUPPORT FILING AND SUBMISSION
IN ACCORDANCE WITH 37 CFR §§ 1.821 THROUGH 1.825**

- (X) I hereby state, in accordance with the requirements of 37 C.F.R. §1.821(f), that the contents of the paper and computer readable copies of the Sequence Listing, submitted in accordance with 37 C.F.R. §1.821(c) and (e), respectively are the same.

Respectfully submitted,

CHARLES REAY MACKAY, *ET AL.*

19 January 2001
(Date)

By: 

GARY D. COLBY, Ph.D., J.D.

Registration No. 40,961

AKIN, GUMP, STRAUSS, HAUER & FELD, L.L.P.

One Commerce Square

2005 Market Street - Suite 2200

Philadelphia, PA 19103

Telephone: 215-965-1200

Direct Dial: 215-965-1285

Facsimile: 215-965-1210

E-Mail: gcolby@akingump.com

Enclosures

SEQUENCE LISTING

<110> MCCARTHY, Sean A
 FRASER, Christopher C
 SHARP, John D
 BARNES, Thomas S
 KIRST, Susan J
 MYERS, Paul S
 WRIGHTON, Nicholas
 GOODEARL, Andrew
 HOLTZMAN, Douglas A
 KHODADOUST, Mehran M

<120> NOVEL GENES ENCODING PROTEINS HAVING PROGNOSTIC,
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| tttttgaaca | ttctgcttta | taactcaact | aaatattgtc | tataagaaac | ttcagtgcca | 2040 |
| tggacatgat | ttaaactgaa | acctccttat | ataattatat | acttttagttg | gaaatataat | 2100 |
| gaattatatg | aggtttagcat | tattaaaata | tgttttttaat | aaaaaaaaaa | aaaaaaaaag | 2160 |
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<210> 22

<211> 1866

<212> DNA

<213> Homo sapiens

<400> 22

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| cttttattat | tactccacaa | agaaatactt | ggatgttcgt | ctgtttgtca | gctctgcact | 120 |
| gggagacaaa | ttaactgccg | taacttaggc | ctttcgagta | ttcctaagaa | ttttcctgaa | 180 |
| agtacagttt | ttctgtatct | gactgggaat | aatatatctt | atataaatga | aagtgaatta | 240 |
| acaggacttc | attctcttgt | agcattgtat | ttggataaatt | ctaacattct | gtatgtatat | 300 |
| ccaaaagcct | ttgttcaatt | gaggcatcta | tattttctat | ttctaaataa | taatttcata | 360 |
| aaacgccttag | atcctggaat | atttaaggga | cttttaaata | ttcgtaattt | atatttacag | 420 |
| tataatcagg | tatcttttgt | tccgagagga | gtatttaatg | atctagtttc | agttcagtac | 480 |
| ttaaatctac | aaaggaatcg | cctcactgtc | cttgggagtg | gtacctttgt | tggtatgggt | 540 |
| gctcttcgga | tacttgattt | atcaaacaat | aacattttga | ggatatcaga | atcaggcttt | 600 |
| caacatcttg | aaaaccttgc | ttgtttgtat | ttaggaagta | ataatttaac | aaaagtacca | 660 |
| tcaaatgcct | ttgaagtact | taaaagtctt | agaagacttt | ctttgtctca | taatcctatt | 720 |
| gaagcaatac | agccctttgc | atttaaagga | cttgccaatc | tggaaatacct | cctcctgaaa | 780 |
| aattcaagaa | ttaggaatgt | tactagggat | gggtttagtg | gaattaataa | tcttaaacat | 840 |
| ttgatcttaa | gtcataatga | tttagagaat | ttaaattctg | acacattcag | tttgttaaag | 900 |
| aatttaattt | accttaagtt | agatagaaac | agaataatta | gcattgataa | tgatacattt | 960 |
| gaaaatatgg | gagcatcttt | gaagatcctt | aatctgtcat | ttaataatct | tacagccttg | 1020 |
| catccaaggg | tccttaagcc | gttgtcttca | ttgattcata | ttcaggcaaa | ttctaatact | 1080 |
| tgggaatgta | actgcaaact | tttgggcctt | cgagactggc | tagcatcttc | agccattact | 1140 |
| ctaaacatct | attgtcagaa | tcccccatcc | atgcgtggca | gagcattacg | ttatattaac | 1200 |
| attacaaatt | gtgttacatc | ttcaataaat | gtatccagag | cttgggctgt | tgtaaaatct | 1260 |

cctcatattc atcacaagac tactgcgcta atgatggcct ggcataaagt aaccacaaat 1320
 ggcagtcctc tggaaaatac tgagactgag aacattactt tctgggaacg aattcctact 1380
 tcacctgctg gtagattttt tcaagagaat gccttttgta atccattaga gactacagca 1440
 gtgttacctg tgcaaataca acttactact tctgttacct tgaacttgga aaaaaacagt 1500
 gctctaccga atgatgctgc ttcaatgtca gggaaaacat ctctaatttg tacacaagaa 1560
 gttgagaagt tgaatgaggc ttttgacatt ttgctagctt ttttcatott agcttgtgtt 1620
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 aactcaaggg aaaatagact tgaatactac agcttttatc agtcagcaag gtataatgta 1740
 actgcctcaa tttgtaacac ttccccaat tctctagaaa gtcttggtt ggagcagatt 1800
 cgacttcata aacaaattgt tcctgaaaat gaggcacagg tcattctttt tgaacattct 1860
 gcttta 1866

<210> 23

<211> 622

<212> PRT

<213> Homo sapiens

<400> 23

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Cys | Gly | Leu | Gln | Phe | Ser | Leu | Pro | Cys | Leu | Arg | Leu | Phe | Leu | Val |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Val | Thr | Cys | Tyr | Leu | Leu | Leu | Leu | Leu | His | Lys | Glu | Ile | Leu | Gly | Cys |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ser | Ser | Val | Cys | Gln | Leu | Cys | Thr | Gly | Arg | Gln | Ile | Asn | Cys | Arg | Asn |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Leu | Gly | Leu | Ser | Ser | Ile | Pro | Lys | Asn | Phe | Pro | Glu | Ser | Thr | Val | Phe |
| | 50 | | | | 55 | | | | | 60 | | | | | |
| Leu | Tyr | Leu | Thr | Gly | Asn | Asn | Ile | Ser | Tyr | Ile | Asn | Glu | Ser | Glu | Leu |
| 65 | | | | 70 | | | | 75 | | | | | | 80 | |
| Thr | Gly | Leu | His | Ser | Leu | Val | Ala | Leu | Tyr | Leu | Asp | Asn | Ser | Asn | Ile |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Leu | Tyr | Val | Tyr | Pro | Lys | Ala | Phe | Val | Gln | Leu | Arg | His | Leu | Tyr | Phe |
| | | 100 | | | | | 105 | | | | | | 110 | | |
| Leu | Phe | Leu | Asn | Asn | Asn | Phe | Ile | Lys | Arg | Leu | Asp | Pro | Gly | Ile | Phe |
| | 115 | | | | | 120 | | | | | | 125 | | | |
| Lys | Gly | Leu | Leu | Asn | Leu | Arg | Asn | Leu | Tyr | Leu | Gln | Tyr | Asn | Gln | Val |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Ser | Phe | Val | Pro | Arg | Gly | Val | Phe | Asn | Asp | Leu | Val | Ser | Val | Gln | Tyr |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |

| | | | |
|---|-----|-----|-----|
| 1 | 5 | 10 | 15 |
| Val Thr Cys Tyr Leu Leu Leu Leu Leu His Lys Glu Ile Leu Gly | | | |
| 20 | 25 | 30 | |
| | | | |
| <210> 25 | | | |
| <211> 591 | | | |
| <212> PRT | | | |
| <213> Homo sapiens | | | |
| | | | |
| <400> 25 | | | |
| Cys Ser Ser Val Cys Gln Leu Cys Thr Gly Arg Gln Ile Asn Cys Arg | | | |
| 1 | 5 | 10 | 15 |
| | | | |
| Asn Leu Gly Leu Ser Ser Ile Pro Lys Asn Phe Pro Glu Ser Thr Val | | | |
| 20 | 25 | 30 | |
| | | | |
| Phe Leu Tyr Leu Thr Gly Asn Asn Ile Ser Tyr Ile Asn Glu Ser Glu | | | |
| 35 | 40 | 45 | |
| | | | |
| Leu Thr Gly Leu His Ser Leu Val Ala Leu Tyr Leu Asp Asn Ser Asn | | | |
| 50 | 55 | 60 | |
| | | | |
| Ile Leu Tyr Val Tyr Pro Lys Ala Phe Val Gln Leu Arg His Leu Tyr | | | |
| 65 | 70 | 75 | 80 |
| | | | |
| Phe Leu Phe Leu Asn Asn Asn Phe Ile Lys Arg Leu Asp Pro Gly Ile | | | |
| 85 | 90 | 95 | |
| | | | |
| Phe Lys Gly Leu Leu Asn Leu Arg Asn Leu Tyr Leu Gln Tyr Asn Gln | | | |
| 100 | 105 | 110 | |
| | | | |
| Val Ser Phe Val Pro Arg Gly Val Phe Asn Asp Leu Val Ser Val Gln | | | |
| 115 | 120 | 125 | |
| | | | |
| Tyr Leu Asn Leu Gln Arg Asn Arg Leu Thr Val Leu Gly Ser Gly Thr | | | |
| 130 | 135 | 140 | |
| | | | |
| Phe Val Gly Met Val Ala Leu Arg Ile Leu Asp Leu Ser Asn Asn Asn | | | |
| 145 | 150 | 155 | 160 |
| | | | |
| Ile Leu Arg Ile Ser Glu Ser Gly Phe Gln His Leu Glu Asn Leu Ala | | | |
| 165 | 170 | 175 | |
| | | | |
| Cys Leu Tyr Leu Gly Ser Asn Asn Leu Thr Lys Val Pro Ser Asn Ala | | | |
| 180 | 185 | 190 | |

Phe Glu Val Leu Lys Ser Leu Arg Arg Leu Ser Leu Ser His Asn Pro
 195 200 205

Ile Glu Ala Ile Gln Pro Phe Ala Phe Lys Gly Leu Ala Asn Leu Glu
 210 215 220

Tyr Leu Leu Leu Lys Asn Ser Arg Ile Arg Asn Val Thr Arg Asp Gly
 225 230 235 240

Phe Ser Gly Ile Asn Asn Leu Lys His Leu Ile Leu Ser His Asn Asp
 245 250 255

Leu Glu Asn Leu Asn Ser Asp Thr Phe Ser Leu Leu Lys Asn Leu Ile
 260 265 270

Tyr Leu Lys Leu Asp Arg Asn Arg Ile Ile Ser Ile Asp Asn Asp Thr
 275 280 285

Phe Glu Asn Met Gly Ala Ser Leu Lys Ile Leu Asn Leu Ser Phe Asn
 290 295 300

Asn Leu Thr Ala Leu His Pro Arg Val Leu Lys Pro Leu Ser Ser Leu
 305 310 315 320

Ile His Leu Gln Ala Asn Ser Asn Pro Trp Glu Cys Asn Cys Lys Leu
 325 330 335

Leu Gly Leu Arg Asp Trp Leu Ala Ser Ser Ala Ile Thr Leu Asn Ile
 340 345 350

Tyr Cys Gln Asn Pro Pro Ser Met Arg Gly Arg Ala Leu Arg Tyr Ile
 355 360 365

Asn Ile Thr Asn Cys Val Thr Ser Ser Ile Asn Val Ser Arg Ala Trp
 370 375 380

Ala Val Val Lys Ser Pro His Ile His His Lys Thr Thr Ala Leu Met
 385 390 395 400

Met Ala Trp His Lys Val Thr Thr Asn Gly Ser Pro Leu Glu Asn Thr
 405 410 415

Glu Thr Glu Asn Ile Thr Phe Trp Glu Arg Ile Pro Thr Ser Pro Ala
 420 425 430

Gly Arg Phe Phe Gln Glu Asn Ala Phe Gly Asn Pro Leu Glu Thr Thr
 435 440 445

Ala Val Leu Pro Val Gln Ile Gln Leu Thr Thr Ser Val Thr Leu Asn
450 455 460

Leu Glu Lys Asn Ser Ala Leu Pro Asn Asp Ala Ala Ser Met Ser Gly
465 470 475 480

Lys Thr Ser Leu Ile Cys Thr Gln Glu Val Glu Lys Leu Asn Glu Ala
485 490 495

Phe Asp Ile Leu Leu Ala Phe Phe Ile Leu Ala Cys Val Leu Ile Ile
500 505 510

Phe Leu Ile Tyr Lys Val Val Gln Phe Lys Gln Lys Leu Lys Ala Ser
515 520 525

Glu Asn Ser Arg Glu Asn Arg Leu Glu Tyr Tyr Ser Phe Tyr Gln Ser
530 535 540

Ala Arg Tyr Asn Val Thr Ala Ser Ile Cys Asn Thr Ser Pro Asn Ser
545 550 555 560

Leu Glu Ser Pro Gly Leu Glu Gln Ile Arg Leu His Lys Gln Ile Val
565 570 575

Pro Glu Asn Glu Ala Gln Val Ile Leu Phe Glu His Ser Ala Leu
580 585 590

<210> 26
<211> 498
<212> PRT
<213> Homo sapiens

<400> 26
Cys Ser Ser Val Cys Gln Leu Cys Thr Gly Arg Gln Ile Asn Cys Arg
1 5 10 15

Asn Leu Gly Leu Ser Ser Ile Pro Lys Asn Phe Pro Glu Ser Thr Val
20 25 30

Phe Leu Tyr Leu Thr Gly Asn Asn Ile Ser Tyr Ile Asn Glu Ser Glu
35 40 45

Leu Thr Gly Leu His Ser Leu Val Ala Leu Tyr Leu Asp Asn Ser Asn
50 55 60

Ile Leu Tyr Val Tyr Pro Lys Ala Phe Val Gln Leu Arg His Leu Tyr
65 70 75 80

Phe Leu Phe Leu Asn Asn Asn Phe Ile Lys Arg Leu Asp Pro Gly Ile
85 90 95

Phe Lys Gly Leu Leu Asn Leu Arg Asn Leu Tyr Leu Gln Tyr Asn Gln
100 105 110

Val Ser Phe Val Pro Arg Gly Val Phe Asn Asp Leu Val Ser Val Gln
115 120 125

Tyr Leu Asn Leu Gln Arg Asn Arg Leu Thr Val Leu Gly Ser Gly Thr
130 135 140

Phe Val Gly Met Val Ala Leu Arg Ile Leu Asp Leu Ser Asn Asn Asn
145 150 155 160

Ile Leu Arg Ile Ser Glu Ser Gly Phe Gln His Leu Glu Asn Leu Ala
165 170 175

Cys Leu Tyr Leu Gly Ser Asn Asn Leu Thr Lys Val Pro Ser Asn Ala
180 185 190

Phe Glu Val Leu Lys Ser Leu Arg Arg Leu Ser Leu Ser His Asn Pro
195 200 205

Ile Glu Ala Ile Gln Pro Phe Ala Phe Lys Gly Leu Ala Asn Leu Glu
210 215 220

Tyr Leu Leu Leu Lys Asn Ser Arg Ile Arg Asn Val Thr Arg Asp Gly
225 230 235 240

Phe Ser Gly Ile Asn Asn Leu Lys His Leu Ile Leu Ser His Asn Asp
245 250 255

Leu Glu Asn Leu Asn Ser Asp Thr Phe Ser Leu Leu Lys Asn Leu Ile
260 265 270

Tyr Leu Lys Leu Asp Arg Asn Arg Ile Ile Ser Ile Asp Asn Asp Thr
275 280 285

Phe Glu Asn Met Gly Ala Ser Leu Lys Ile Leu Asn Leu Ser Phe Asn
290 295 300

Asn Leu Thr Ala Leu His Pro Arg Val Leu Lys Pro Leu Ser Ser Leu
305 310 315 320

Ile His Leu Gln Ala Asn Ser Asn Pro Trp Glu Cys Asn Cys Lys Leu
325 330 335

Leu Gly Leu Arg Asp Trp Leu Ala Ser Ser Ala Ile Thr Leu Asn Ile
 340 345 350

Tyr Cys Gln Asn Pro Pro Ser Met Arg Gly Arg Ala Leu Arg Tyr Ile
 355 360 365

Asn Ile Thr Asn Cys Val Thr Ser Ser Ile Asn Val Ser Arg Ala Trp
 370 375 380

Ala Val Val Lys Ser Pro His Ile His His Lys Thr Thr Ala Leu Met
 385 390 395 400

Met Ala Trp His Lys Val Thr Thr Asn Gly Ser Pro Leu Glu Asn Thr
 405 410 415

Glu Thr Glu Asn Ile Thr Phe Trp Glu Arg Ile Pro Thr Ser Pro Ala
 420 425 430

Gly Arg Phe Phe Gln Glu Asn Ala Phe Gly Asn Pro Leu Glu Thr Thr
 435 440 445

Ala Val Leu Pro Val Gln Ile Gln Leu Thr Thr Ser Val Thr Leu Asn
 450 455 460

Leu Glu Lys Asn Ser Ala Leu Pro Asn Asp Ala Ala Ser Met Ser Gly
 465 470 475 480

Lys Thr Ser Leu Ile Cys Thr Gln Glu Val Glu Lys Leu Asn Glu Ala
 485 490 495

Phe Asp

<210> 27

<211> 18

<212> PRT

<213> Homo sapiens

<400> 27

Ile Leu Leu Ala Phe Phe Ile Leu Ala Cys Val Leu Ile Ile Phe Leu
 1 5 10 15

Ile Tyr

<210> 28
 <211> 75
 <212> PRT
 <213> Homo sapiens

<400> 28
 Lys Val Val Gln Phe Lys Gln Lys Leu Lys Ala Ser Glu Asn Ser Arg
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 Glu Asn Arg Leu Glu Tyr Tyr Ser Phe Tyr Gln Ser Ala Arg Tyr Asn
 20 25 30
 Val Thr Ala Ser Ile Cys Asn Thr Ser Pro Asn Ser Leu Glu Ser Pro
 35 40 45
 Gly Leu Glu Gln Ile Arg Leu His Lys Gln Ile Val Pro Glu Asn Glu
 50 55 60
 Ala Gln Val Ile Leu Phe Glu His Ser Ala Leu
 65 70 75

<210> 29
 <211> 1529
 <212> PRT
 <213> Homo sapiens

<400> 29
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 Leu Ala Ile Leu Asn Lys Val Ala Pro Gln Ala Cys Pro Ala Gln Cys
 20 25 30
 Ser Cys Ser Gly Ser Thr Val Asp Cys His Gly Leu Ala Leu Arg Ser
 35 40 45
 Val Pro Arg Asn Ile Pro Arg Asn Thr Glu Arg Leu Asp Leu Asn Gly
 50 55 60
 Asn Asn Ile Thr Arg Ile Thr Lys Thr Asp Phe Ala Gly Leu Arg His
 65 70 75 80
 Leu Arg Val Leu Gln Leu Met Glu Asn Lys Ile Ser Thr Ile Glu Arg
 85 90 95
 Gly Ala Phe Gln Asp Leu Lys Glu Leu Glu Arg Leu Arg Leu Asn Arg
 100 105 110

Asn His Leu Gln Leu Phe Pro Glu Leu Leu Phe Leu Gly Thr Ala Lys
 115 120 125

Leu Tyr Arg Leu Asp Leu Ser Glu Asn Gln Ile Gln Ala Ile Pro Arg
 130 135 140

Lys Ala Phe Arg Gly Ala Val Asp Ile Lys Asn Leu Gln Leu Asp Tyr
 145 150 155 160

Asn Gln Ile Ser Cys Ile Glu Asp Gly Ala Phe Arg Ala Leu Arg Asp
 165 170 175

Leu Glu Val Leu Thr Leu Asn Asn Asn Asn Ile Thr Arg Leu Ser Val
 180 185 190

Ala Ser Phe Asn His Met Pro Lys Leu Arg Thr Phe Arg Leu His Ser
 195 200 205

Asn Asn Leu Tyr Cys Asp Cys His Leu Ala Trp Leu Ser Asp Trp Leu
 210 215 220

Arg Gln Arg Pro Arg Val Gly Leu Tyr Thr Gln Cys Met Gly Pro Ser
 225 230 235 240

His Leu Arg Gly His Asn Val Ala Glu Val Gln Lys Arg Glu Phe Val
 245 250 255

Cys Ser Gly His Gln Ser Phe Met Ala Pro Ser Cys Ser Val Leu His
 260 265 270

Cys Pro Ala Ala Cys Thr Cys Ser Asn Asn Ile Val Asp Cys Arg Gly
 275 280 285

Lys Gly Leu Thr Glu Ile Pro Thr Asn Leu Pro Glu Thr Ile Thr Glu
 290 295 300

Ile Arg Leu Glu Gln Asn Thr Ile Lys Val Ile Pro Pro Gly Ala Phe
 305 310 315 320

Ser Pro Tyr Lys Lys Leu Arg Arg Ile Asp Leu Ser Asn Asn Gln Ile
 325 330 335

Ser Glu Leu Ala Pro Asp Ala Phe Gln Gly Leu Arg Ser Leu Asn Ser
 340 345 350

Leu Val Leu Tyr Gly Asn Lys Ile Thr Glu Leu Pro Lys Ser Leu Phe
 355 360 365

Glu Gly Leu Phe Ser Leu Gln Leu Leu Leu Leu Asn Ala Asn Lys Ile
 370 375 380

Asn Cys Leu Arg Val Asp Ala Phe Gln Asp Leu His Asn Leu Asn Leu
 385 390 395 400

Leu Ser Leu Tyr Asp Asn Lys Leu Gln Thr Ile Ala Lys Gly Thr Phe
 405 410 415

Ser Pro Leu Arg Ala Ile Gln Thr Met His Leu Ala Gln Asn Pro Phe
 420 425 430

Ile Cys Asp Cys His Leu Lys Trp Leu Ala Asp Tyr Leu His Thr Asn
 435 440 445

Pro Ile Glu Thr Ser Gly Ala Arg Cys Thr Ser Pro Arg Arg Leu Ala
 450 455 460

Asn Lys Arg Ile Gly Gln Ile Lys Ser Lys Lys Phe Arg Cys Ser Ala
 465 470 475 480

Lys Glu Gln Tyr Phe Ile Pro Gly Thr Glu Asp Tyr Arg Ser Lys Leu
 485 490 495

Ser Gly Asp Cys Phe Ala Asp Leu Ala Cys Pro Glu Lys Cys Arg Cys
 500 505 510

Glu Gly Thr Thr Val Asp Cys Ser Asn Gln Lys Leu Asn Lys Ile Pro
 515 520 525

Glu His Ile Pro Gln Tyr Thr Ala Glu Leu Arg Leu Asn Asn Asn Glu
 530 535 540

Phe Thr Val Leu Glu Ala Thr Gly Ile Phe Lys Lys Leu Pro Gln Leu
 545 550 555 560

Arg Lys Ile Asn Phe Ser Asn Asn Lys Ile Thr Asp Ile Glu Glu Gly
 565 570 575

Ala Phe Glu Gly Ala Ser Gly Val Asn Glu Ile Leu Leu Thr Ser Asn
 580 585 590

Arg Leu Glu Asn Val Gln His Lys Met Phe Lys Gly Leu Glu Ser Leu
 595 600 605

Lys Thr Leu Met Leu Arg Ser Asn Arg Ile Thr Cys Val Gly Asn Asp
 610 615 620

Ser Phe Ile Gly Leu Ser Ser Val Arg Leu Leu Ser Leu Tyr Asp Asn
625 630 635 640

Gln Ile Thr Thr Val Ala Pro Gly Ala Phe Asp Thr Leu His Ser Leu
645 650 655

Ser Thr Leu Asn Leu Leu Ala Asn Pro Phe Asn Cys Asn Cys Tyr Leu
660 665 670

Ala Trp Leu Gly Glu Trp Leu Arg Lys Lys Arg Ile Val Thr Gly Asn
675 680 685

Pro Arg Cys Gln Lys Pro Tyr Phe Leu Lys Glu Ile Pro Ile Gln Asp
690 695 700

Val Ala Ile Gln Asp Phe Thr Cys Asp Asp Gly Asn Asp Asp Asn Ser
705 710 715 720

Cys Ser Pro Leu Ser Arg Cys Pro Thr Glu Cys Thr Cys Leu Asp Thr
725 730 735

Val Val Arg Cys Ser Asn Lys Gly Leu Lys Val Leu Pro Lys Gly Ile
740 745 750

Pro Arg Asp Val Thr Glu Leu Tyr Leu Asp Gly Asn Gln Phe Thr Leu
755 760 765

Val Pro Lys Glu Leu Ser Asn Tyr Lys His Leu Thr Leu Ile Asp Leu
770 775 780

Ser Asn Asn Arg Ile Ser Thr Leu Ser Asn Gln Ser Phe Ser Asn Met
785 790 795 800

Thr Gln Leu Leu Thr Leu Ile Leu Ser Tyr Asn Arg Leu Arg Cys Ile
805 810 815

Pro Pro Arg Thr Phe Asp Gly Leu Lys Ser Leu Arg Leu Leu Ser Leu
820 825 830

His Gly Asn Asp Ile Ser Val Val Pro Glu Gly Ala Phe Asn Asp Leu
835 840 845

Ser Ala Leu Ser His Leu Ala Ile Gly Ala Asn Pro Leu Tyr Cys Asp
850 855 860

Cys Asn Met Gln Trp Leu Ser Asp Trp Val Lys Ser Glu Tyr Lys Glu
865 870 875 880

Pro Gly Ile Ala Arg Cys Ala Gly Pro Gly Glu Met Ala Asp Lys Leu
885 890 895

Leu Leu Thr Thr Pro Ser Lys Lys Phe Thr Cys Gln Gly Pro Val Asp
900 905 910

Val Asn Ile Leu Ala Lys Cys Asn Pro Cys Leu Ser Asn Pro Cys Lys
915 920 925

Asn Asp Gly Thr Cys Asn Ser Asp Pro Val Asp Phe Tyr Arg Cys Thr
930 935 940

Cys Pro Tyr Gly Phe Lys Gly Gln Asp Cys Asp Val Pro Ile His Ala
945 950 955 960

Cys Ile Ser Asn Pro Cys Lys His Gly Gly Thr Cys His Leu Lys Glu
965 970 975

Gly Glu Glu Asp Gly Phe Trp Cys Ile Cys Ala Asp Gly Phe Glu Gly
980 985 990

Glu Asn Cys Glu Val Asn Val Asp Asp Cys Glu Asp Asn Asp Cys Glu
995 1000 1005

Asn Asn Ser Thr Cys Val Asp Gly Ile Asn Asn Tyr Thr Cys Leu Cys
1010 1015 1020

Pro Pro Glu Tyr Thr Gly Glu Leu Cys Glu Glu Lys Leu Asp Phe Cys
1025 1030 1035 1040

Ala Gln Asp Leu Asn Pro Cys Gln His Asp Ser Lys Cys Ile Leu Thr
1045 1050 1055

Pro Lys Gly Phe Lys Cys Asp Cys Thr Pro Gly Tyr Val Gly Glu His
1060 1065 1070

Cys Asp Ile Asp Phe Asp Asp Cys Gln Asp Asn Lys Cys Lys Asn Gly
1075 1080 1085

Ala His Cys Thr Asp Ala Val Asn Gly Tyr Thr Cys Ile Cys Pro Glu
1090 1095 1100

Gly Tyr Ser Gly Leu Phe Cys Glu Phe Ser Pro Pro Met Val Leu Pro
1105 1110 1115 1120

Arg Thr Ser Pro Cys Asp Asn Phe Asp Cys Gln Asn Gly Ala Gln Cys
1125 1130 1135

Ile Val Arg Ile Asn Glu Pro Ile Cys Gln Cys Leu Pro Gly Tyr Gln
 1140 1145 1150

Gly Glu Lys Cys Glu Lys Leu Val Ser Val Asn Phe Ile Asn Lys Glu
 1155 1160 1165

Ser Tyr Leu Gln Ile Pro Ser Ala Lys Val Arg Pro Gln Thr Asn Ile
 1170 1175 1180

Thr Leu Gln Ile Ala Thr Asp Glu Asp Ser Gly Ile Leu Leu Tyr Lys
 1185 1190 1195 1200

Gly Asp Lys Asp His Ile Ala Val Glu Leu Tyr Arg Gly Arg Val Arg
 1205 1210 1215

Ala Ser Tyr Asp Thr Gly Ser His Pro Ala Ser Ala Ile Tyr Ser Val
 1220 1225 1230

Glu Thr Ile Asn Asp Gly Asn Phe His Ile Val Glu Leu Leu Ala Leu
 1235 1240 1245

Asp Gln Ser Leu Ser Leu Ser Val Asp Gly Gly Asn Pro Lys Ile Ile
 1250 1255 1260

Thr Asn Leu Ser Lys Gln Ser Thr Leu Asn Phe Asp Ser Pro Leu Tyr
 1265 1270 1275 1280

Val Gly Gly Met Pro Gly Lys Ser Asn Val Ala Ser Leu Arg Gln Ala
 1285 1290 1295

Pro Gly Gln Asn Gly Thr Ser Phe His Gly Cys Ile Arg Asn Leu Tyr
 1300 1305 1310

Ile Asn Ser Glu Leu Gln Asp Phe Gln Lys Val Pro Met Gln Thr Gly
 1315 1320 1325

Ile Leu Pro Gly Cys Glu Pro Cys His Lys Lys Val Cys Ala His Gly
 1330 1335 1340

Thr Cys Gln Pro Ser Ser Gln Ala Gly Phe Thr Cys Glu Cys Gln Glu
 1345 1350 1355 1360

Gly Trp Met Gly Pro Leu Cys Asp Gln Arg Thr Asn Asp Pro Cys Leu
 1365 1370 1375

Gly Asn Lys Cys Val His Gly Thr Cys Leu Pro Ile Asn Ala Phe Ser
 1380 1385 1390

Tyr Ser Cys Lys Cys Leu Glu Gly His Gly Gly Val Leu Cys Asp Glu
 1395 1400 1405

Glu Glu Asp Leu Phe Asn Pro Cys Gln Ala Ile Lys Cys Lys His Gly
 1410 1415 1420

Lys Cys Arg Leu Ser Gly Leu Gly Gln Pro Tyr Cys Glu Cys Ser Ser
 1425 1430 1435 1440

Gly Tyr Thr Gly Asp Ser Cys Asp Arg Glu Ile Ser Cys Arg Gly Glu
 1445 1450 1455

Arg Ile Arg Asp Tyr Tyr Gln Lys Gln Gln Gly Tyr Ala Ala Cys Gln
 1460 1465 1470

Thr Thr Lys Lys Val Ser Arg Leu Glu Cys Arg Gly Gly Cys Ala Gly
 1475 1480 1485

Gly Gln Cys Cys Gly Pro Leu Arg Ser Lys Arg Arg Lys Tyr Ser Phe
 1490 1495 1500

Glu Cys Thr Asp Gly Ser Ser Phe Val Asp Glu Val Glu Lys Val Val
 1505 1510 1515 1520

Lys Cys Gly Cys Thr Arg Cys Val Ser
 1525

<210> 30

<211> 4900

<212> DNA

<213> Homo sapiens

<400> 30

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 ggccctcagac actgcgcggt tccctcggag cagcaagcta aagaaagccc ccagtgcgcg 180
 cgaggaagga ggcggcgggg aaagatgcgc ggcgttggct ggcagatgct gtcctgtgctg 240
 ctgggggttag tgctggcgat cctgaacaag gtggcaccgc aggcgtgccc ggcgcagtgc 300
 tcttgctcgg gcagcacagt ggactgtcac ggcgtggcgc tgcgcagcgt gccaggaat 360
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<210> 31
<211> 3510
<212> DNA
<213> Homo sapiens

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<210> 32

<211> 1530

<212> DNA

<213> Homo sapiens

<400> 32

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<210> 33
<211> 510
<212> PRT
<213> Homo sapiens

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Glu Leu Glu Thr Ser Asp Val Val Thr Val Val Leu Gly Gln Asp Ala
    35             40            45

Lys Leu Pro Cys Phe Tyr Arg Gly Asp Ser Gly Glu Gln Val Gly Gln
    50             55            60

Val Ala Trp Ala Arg Val Asp Ala Gly Glu Gly Ala Gln Glu Leu Ala
    65             70            75            80

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Leu Leu His Ser Lys Tyr Gly Leu His Val Ser Pro Ala Tyr Glu Gly
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Arg Val Glu Gln Pro Pro Pro Pro Arg Asn Pro Leu Asp Gly Ser Val
100 105 110

Leu Leu Arg Asn Ala Val Gln Ala Asp Glu Gly Glu Tyr Glu Cys Arg
115 120 125

Val Ser Thr Phe Pro Ala Gly Ser Phe Gln Ala Arg Leu Arg Leu Arg
130 135 140

Val Leu Val Pro Pro Leu Pro Ser Leu Asn Pro Gly Pro Ala Leu Glu
145 150 155 160

Glu Gly Gln Gly Leu Thr Leu Ala Ala Ser Cys Thr Ala Glu Gly Ser
165 170 175

Pro Ala Pro Ser Val Thr Trp Asp Thr Glu Val Lys Gly Thr Thr Ser
180 185 190

Ser Arg Ser Phe Lys His Ser Arg Ser Ala Ala Val Thr Ser Glu Phe
195 200 205

His Leu Val Pro Ser Arg Ser Met Asn Gly Gln Pro Leu Thr Cys Val
210 215 220

Val Ser His Pro Gly Leu Leu Gln Asp Gln Arg Ile Thr His Ile Leu
225 230 235 240

His Val Ser Phe Leu Ala Glu Ala Ser Val Arg Gly Leu Glu Asp Gln
245 250 255

Asn Leu Trp His Ile Gly Arg Glu Gly Ala Met Leu Lys Cys Leu Ser
260 265 270

Glu Gly Gln Pro Pro Pro Ser Tyr Asn Trp Thr Arg Leu Asp Gly Pro
275 280 285

Leu Pro Ser Gly Val Arg Val Asp Gly Asp Thr Leu Gly Phe Pro Pro
290 295 300

Leu Thr Thr Glu His Ser Gly Ile Tyr Val Cys His Val Ser Asn Glu
305 310 315 320

Phe Ser Ser Arg Asp Ser Gln Val Thr Val Asp Val Leu Asp Pro Gln
325 330 335

Glu Asp Ser Gly Lys Gln Val Asp Leu Val Ser Ala Ser Val Val Val
 340 345 350

Val Gly Val Ile Ala Ala Leu Leu Phe Cys Leu Leu Val Val Val Val
 355 360 365

Val Leu Met Ser Arg Tyr His Arg Arg Lys Ala Gln Gln Met Thr Gln
 370 375 380

Lys Tyr Glu Glu Glu Leu Thr Leu Thr Arg Glu Asn Ser Ile Arg Arg
 385 390 395 400

Leu His Ser His His Thr Asp Pro Arg Ser Gln Pro Glu Glu Ser Val
 405 410 415

Gly Leu Arg Ala Glu Gly His Pro Asp Ser Leu Lys Asp Asn Ser Ser
 420 425 430

Cys Ser Val Met Ser Glu Glu Pro Glu Gly Arg Ser Tyr Ser Thr Leu
 435 440 445

Thr Thr Val Arg Glu Ile Glu Thr Gln Thr Glu Leu Leu Ser Pro Gly
 450 455 460

Ser Gly Arg Ala Glu Glu Glu Glu Asp Gln Asp Glu Gly Ile Lys Gln
 465 470 475 480

Ala Met Asn His Phe Val Gln Glu Asn Gly Thr Leu Arg Ala Lys Pro
 485 490 495

Thr Gly Asn Gly Ile Tyr Ile Asn Gly Arg Gly His Leu Val
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<210> 34

<211> 31

<212> PRT

<213> Homo sapiens

<400> 34

Met Pro Leu Ser Leu Gly Ala Glu Met Trp Gly Pro Glu Ala Trp Leu
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Leu Leu Leu Leu Leu Leu Ala Ser Phe Thr Gly Arg Cys Pro Ala
 20 25 30

<210> 35

<211> 479

<212> PRT

<213> Homo sapiens

<400> 35

Gly Glu Leu Glu Thr Ser Asp Val Val Thr Val Val Leu Gly Gln Asp
1 5 10 15

Ala Lys Leu Pro Cys Phe Tyr Arg Gly Asp Ser Gly Glu Gln Val Gly
20 25 30

Gln Val Ala Trp Ala Arg Val Asp Ala Gly Glu Gly Ala Gln Glu Leu
35 40 45

Ala Leu Leu His Ser Lys Tyr Gly Leu His Val Ser Pro Ala Tyr Glu
50 55 60

Gly Arg Val Glu Gln Pro Pro Pro Arg Asn Pro Leu Asp Gly Ser
65 70 75 80

Val Leu Leu Arg Asn Ala Val Gln Ala Asp Glu Gly Glu Tyr Glu Cys
85 90 95

Arg Val Ser Thr Phe Pro Ala Gly Ser Phe Gln Ala Arg Leu Arg Leu
100 105 110

Arg Val Leu Val Pro Pro Leu Pro Ser Leu Asn Pro Gly Pro Ala Leu
115 120 125

Glu Glu Gly Gln Gly Leu Thr Leu Ala Ala Ser Cys Thr Ala Glu Gly
130 135 140

Ser Pro Ala Pro Ser Val Thr Trp Asp Thr Glu Val Lys Gly Thr Thr
145 150 155 160

Ser Ser Arg Ser Phe Lys His Ser Arg Ser Ala Ala Val Thr Ser Glu
165 170 175

Phe His Leu Val Pro Ser Arg Ser Met Asn Gly Gln Pro Leu Thr Cys
180 185 190

Val Val Ser His Pro Gly Leu Leu Gln Asp Gln Arg Ile Thr His Ile
195 200 205

Leu His Val Ser Phe Leu Ala Glu Ala Ser Val Arg Gly Leu Glu Asp
210 215 220

Gln Asn Leu Trp His Ile Gly Arg Glu Gly Ala Met Leu Lys Cys Leu
225 230 235 240

Ser Glu Gly Gln Pro Pro Ser Tyr Asn Trp Thr Arg Leu Asp Gly
245 250 255

Pro Leu Pro Ser Gly Val Arg Val Asp Gly Asp Thr Leu Gly Phe Pro
260 265 270

Pro Leu Thr Thr Glu His Ser Gly Ile Tyr Val Cys His Val Ser Asn
275 280 285

Glu Phe Ser Ser Arg Asp Ser Gln Val Thr Val Asp Val Leu Asp Pro
290 295 300

Gln Glu Asp Ser Gly Lys Gln Val Asp Leu Val Ser Ala Ser Val Val
305 310 315 320

Val Val Gly Val Ile Ala Ala Leu Leu Phe Cys Leu Leu Val Val Val
325 330 335

Val Val Leu Met Ser Arg Tyr His Arg Arg Lys Ala Gln Gln Met Thr
340 345 350

Gln Lys Tyr Glu Glu Glu Leu Thr Leu Thr Arg Glu Asn Ser Ile Arg
355 360 365

Arg Leu His Ser His His Thr Asp Pro Arg Ser Gln Pro Glu Glu Ser
370 375 380

Val Gly Leu Arg Ala Glu Gly His Pro Asp Ser Leu Lys Asp Asn Ser
385 390 395 400

Ser Cys Ser Val Met Ser Glu Glu Pro Glu Gly Arg Ser Tyr Ser Thr
405 410 415

Leu Thr Thr Val Arg Glu Ile Glu Thr Gln Thr Glu Leu Leu Ser Pro
420 425 430

Gly Ser Gly Arg Ala Glu Glu Glu Glu Asp Gln Asp Glu Gly Ile Lys
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Pro Thr Gly Asn Gly Ile Tyr Ile Asn Gly Arg Gly His Leu Val
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<210> 36
 <211> 314
 <212> PRT
 <213> Homo sapiens

<400> 36

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 35 40 45

Ala Leu Leu His Ser Lys Tyr Gly Leu His Val Ser Pro Ala Tyr Glu
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Gly Arg Val Glu Gln Pro Pro Pro Arg Asn Pro Leu Asp Gly Ser
 65 70 75 80

Val Leu Leu Arg Asn Ala Val Gln Ala Asp Glu Gly Glu Tyr Glu Cys
 85 90 95

Arg Val Ser Thr Phe Pro Ala Gly Ser Phe Gln Ala Arg Leu Arg Leu
 100 105 110

Arg Val Leu Val Pro Pro Leu Pro Ser Leu Asn Pro Gly Pro Ala Leu
 115 120 125

Glu Glu Gly Gln Gly Leu Thr Leu Ala Ala Ser Cys Thr Ala Glu Gly
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Ser Pro Ala Pro Ser Val Thr Trp Asp Thr Glu Val Lys Gly Thr Thr
 145 150 155 160

Ser Ser Arg Ser Phe Lys His Ser Arg Ser Ala Ala Val Thr Ser Glu
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Phe His Leu Val Pro Ser Arg Ser Met Asn Gly Gln Pro Leu Thr Cys
 180 185 190

Val Val Ser His Pro Gly Leu Leu Gln Asp Gln Arg Ile Thr His Ile
 195 200 205

Leu His Val Ser Phe Leu Ala Glu Ala Ser Val Arg Gly Leu Glu Asp
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Gln Asn Leu Trp His Ile Gly Arg Glu Gly Ala Met Leu Lys Cys Leu
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Ser Glu Gly Gln Pro Pro Pro Ser Tyr Asn Trp Thr Arg Leu Asp Gly
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Pro Leu Pro Ser Gly Val Arg Val Asp Gly Asp Thr Leu Gly Phe Pro
260 265 270

Pro Leu Thr Thr Glu His Ser Gly Ile Tyr Val Cys His Val Ser Asn
275 280 285

Glu Phe Ser Ser Arg Asp Ser Gln Val Thr Val Asp Val Leu Asp Pro
290 295 300

Gln Glu Asp Ser Gly Lys Gln Val Asp Leu
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<210> 37

<211> 25

<212> PRT

<213> Homo sapiens

<400> 37

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1 5 10 15

Cys Leu Leu Val Val Val Val Val Leu
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<210> 38

<211> 140

<212> PRT

<213> Homo sapiens

<400> 38

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1 5 10 15

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20 25 30

Ser His His Thr Asp Pro Arg Ser Gln Pro Glu Glu Ser Val Gly Leu
35 40 45

Arg Ala Glu Gly His Pro Asp Ser Leu Lys Asp Asn Ser Ser Cys Ser
50 55 60

Val Met Ser Glu Glu Pro Glu Gly Arg Ser Tyr Ser Thr Leu Thr Thr
65 70 75 80

Val Arg Glu Ile Glu Thr Gln Thr Glu Leu Leu Ser Pro Gly Ser Gly
85 90 95

Arg Ala Glu Glu Glu Glu Asp Gln Asp Glu Gly Ile Lys Gln Ala Met
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Asn His Phe Val Gln Glu Asn Gly Thr Leu Arg Ala Lys Pro Thr Gly
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Asn Gly Ile Tyr Ile Asn Gly Arg Gly His Leu Val
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<400> 39

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<210> 41

<211> 2510

<212> DNA

<213> Homo sapiens

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<210> 42

<211> 897

<212> DNA

<213> Homo sapiens

<400> 42

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<210> 43

<211> 299

<212> PRT

<213> Homo sapiens

<400> 43

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Pro Leu Thr Cys Val Val Ser His Pro Gly Leu Leu Gln Asp Gln Arg
 35 40 45

Ile Thr His Ile Leu His Val Ser Phe Leu Ala Glu Ala Ser Val Arg
 50 55 60

Gly Leu Glu Asp Gln Asn Leu Trp His Ile Gly Arg Glu Gly Ala Met
 65 70 75 80

Leu Lys Cys Leu Ser Glu Gly Gln Pro Pro Pro Ser Tyr Asn Trp Thr
 85 90 95

Arg Leu Asp Gly Pro Leu Pro Ser Gly Val Arg Val Asp Gly Asp Thr
 100 105 110

Leu Gly Phe Pro Pro Leu Thr Thr Glu His Ser Gly Ile Tyr Val Cys
 115 120 125

His Val Ser Asn Glu Phe Ser Ser Arg Asp Ser Gln Val Thr Val Asp
 130 135 140

Val Leu Ala Asp Pro Gln Glu Asp Ser Gly Lys Gln Val Asp Leu Val
 145 150 155 160

Ser Ala Ser Val Val Val Val Gly Val Ile Ala Ala Leu Leu Phe Cys
 165 170 175

Leu Leu Val Val Val Val Val Leu Met Ser Arg Tyr His Arg Arg Lys
 180 185 190

Ala Gln Gln Met Thr Gln Lys Tyr Glu Glu Glu Leu Thr Leu Thr Arg
 195 200 205

Glu Asn Ser Ile Arg Arg Leu His Ser His His Thr Asp Pro Arg Ser
 210 215 220

Gln Ser Glu Glu Pro Glu Gly Arg Ser Tyr Ser Thr Leu Thr Thr Val
 225 230 235 240

Arg Glu Ile Glu Thr Gln Thr Glu Leu Leu Ser Pro Gly Ser Gly Arg
 245 250 255

Ala Glu Glu Glu Glu Asp Gln Asp Glu Gly Ile Lys Gln Ala Met Asn
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His Phe Val Gln Glu Asn Gly Thr Leu Arg Ala Lys Pro Thr Gly Asn
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Gly Ile Tyr Ile Asn Gly Arg Gly His Leu Val
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<210> 51
<211> 3114
<212> DNA
<213> Homo sapiens

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<210> 52
<211> 627
<212> DNA
<213> Homo sapiens

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<210> 53
<211> 209
<212> PRT
<213> Homo sapiens

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<400> 53
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1 5 10 15

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Ala Cys Phe Ile Val Ser Cys Val Val Thr Tyr His Phe Thr Tyr Gly
 35 40 45

Glu Thr Gly Lys Arg Leu Ser Glu Leu His Ser Tyr His Ser Ser Leu
 50 55 60

Thr Cys Phe Ser Glu Gly Thr Lys Val Pro Ala Trp Gly Cys Cys Pro
 65 70 75 80

Ala Ser Trp Lys Ser Phe Gly Ser Ser Cys Tyr Phe Ile Ser Ser Glu
 85 90 95

Glu Lys Val Trp Ser Lys Ser Glu Gln Asn Cys Val Glu Met Gly Ala
 100 105 110

His Leu Val Val Phe Asn Thr Glu Ala Glu Gln Asn Phe Ile Val Gln
 115 120 125

Gln Leu Asn Glu Ser Phe Ser Tyr Phe Leu Gly Leu Ser Asp Pro Gln
 130 135 140

Gly Asn Asn Asn Trp Gln Trp Ile Asp Lys Thr Pro Tyr Glu Lys Asn
 145 150 155 160

Val Arg Phe Trp His Leu Gly Glu Pro Asn His Ser Ala Glu Gln Cys
 165 170 175

Ala Ser Ile Val Phe Trp Lys Pro Thr Gly Trp Gly Trp Asn Asp Val
 180 185 190

Ile Cys Glu Thr Arg Arg Asn Ser Ile Cys Glu Met Asn Lys Ile Tyr
 195 200 205

Leu

<210> 54

<211> 48

<212> PRT

<213> Homo sapiens

<400> 54

Met Met Gln Glu Gln Gln Pro Gln Ser Thr Glu Lys Arg Gly Trp Leu

1 5 10 15
 Ser Leu Arg Leu Trp Ser Val Ala Gly Ile Ser Ile Ala Leu Leu Ser
 20 25 30
 Ala Cys Phe Ile Val Ser Cys Val Val Thr Tyr His Phe Thr Tyr Gly
 35 40 45

<210> 55
 <211> 161
 <212> PRT
 <213> Homo sapiens

<400> 55
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 20 25 30
 Ala Ser Trp Lys Ser Phe Gly Ser Ser Cys Tyr Phe Ile Ser Ser Glu
 35 40 45
 Glu Lys Val Trp Ser Lys Ser Glu Gln Asn Cys Val Glu Met Gly Ala
 50 55 60
 His Leu Val Val Phe Asn Thr Glu Ala Glu Gln Asn Phe Ile Val Gln
 65 70 75 80
 Gln Leu Asn Glu Ser Phe Ser Tyr Phe Leu Gly Leu Ser Asp Pro Gln
 85 90 95
 Gly Asn Asn Asn Trp Gln Trp Ile Asp Lys Thr Pro Tyr Glu Lys Asn
 100 105 110
 Val Arg Phe Trp His Leu Gly Glu Pro Asn His Ser Ala Glu Gln Cys
 115 120 125
 Ala Ser Ile Val Phe Trp Lys Pro Thr Gly Trp Gly Trp Asn Asp Val
 130 135 140
 Ile Cys Glu Thr Arg Arg Asn Ser Ile Cys Glu Met Asn Lys Ile Tyr
 145 150 155 160

Leu

<210> 56
<400> 56
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<210> 57
<400> 57
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<210> 58
<400> 58
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<210> 59
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<210> 60
<211> 209
<212> PRT
<213> Mus sp.

<400> 60
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1 5 10 15

Arg Leu Trp Ser Ala Ala Val Ile Ser Met Leu Leu Leu Ser Thr Cys
20 25 30

Phe Ile Ala Ser Cys Val Val Thr Tyr Gln Phe Ile Met Asp Gln Pro
35 40 45

Ser Arg Arg Leu Tyr Glu Leu His Thr Tyr His Ser Ser Leu Thr Cys
50 55 60

Phe Ser Glu Gly Thr Met Val Ser Glu Lys Met Trp Gly Cys Cys Pro
65 70 75 80

Asn His Trp Lys Ser Phe Gly Ser Ser Cys Tyr Leu Ile Ser Thr Lys
85 90 95

Glu Asn Phe Trp Ser Thr Ser Glu Gln Asn Cys Val Gln Met Gly Ala
100 105 110

His Leu Val Val Ile Asn Thr Glu Ala Glu Gln Asn Phe Ile Thr Gln
115 120 125

Gln Leu Asn Glu Ser Leu Ser Tyr Phe Leu Gly Leu Ser Asp Pro Gln
130 135 140

Gly Asn Gly Lys Trp Gln Trp Ile Asp Asp Thr Pro Phe Ser Gln Asn
145 150 155 160

Val Arg Phe Trp His Pro His Glu Pro Asn Leu Pro Glu Glu Arg Cys
165 170 175

Val Ser Ile Val Tyr Trp Asn Pro Ser Lys Trp Gly Trp Asn Asp Val
180 185 190

Phe Cys Asp Ser Lys His Asn Ser Ile Cys Glu Met Lys Lys Ile Tyr
195 200 205

Leu

<210> 61

<211> 821

<212> DNA

<213> Mus sp.

<400> 61

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<210> 62

<211> 534
 <212> DNA
 <213> Mus sp.

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 tcggatccca aggtaatggc aaatggcaat ggatcgatga tactcctttc agtcaaaatg 480
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<210> 63
 <211> 178
 <212> PRT
 <213> Mus sp.

<400> 63
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 Phe Ile Ala Ser Cys Val Val Thr Tyr Gln Phe Ile Met Asp Gln Pro
 35 40 45
 Ser Arg Arg Leu Tyr Glu Leu His Thr Tyr His Ser Ser Leu Thr Cys
 50 55 60
 Phe Ser Glu Gly Thr Met Val Ser Glu Lys Met Trp Gly Cys Cys Pro
 65 70 75 80
 Asn His Trp Lys Ser Phe Gly Ser Ser Cys Tyr Leu Ile Ser Thr Lys
 85 90 95
 Glu Asn Phe Trp Ser Thr Ser Glu Gln Asn Cys Val Gln Met Gly Ala
 100 105 110
 His Leu Val Val Ile Asn Thr Glu Ala Glu Gln Asn Phe Ile Thr Gln
 115 120 125
 Gln Leu Asn Glu Ser Leu Ser Tyr Phe Leu Gly Leu Ser Asp Pro Lys
 130 135 140

Val Met Ala Asn Gly Asn Gly Ser Met Ile Leu Leu Ser Val Lys Met
 145 150 155 160

Ser Gly Ser Gly Thr Pro Met Asn Pro Ile Phe Gln Lys Ser Gly Val
 165 170 175

Phe Gln

<210> 64

<211> 48

<212> PRT

<213> Mus sp.

<400> 64

Met Val Gln Glu Arg Gln Ser Gln Gly Lys Gly Val Cys Trp Thr Leu
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Arg Leu Trp Ser Ala Ala Val Ile Ser Met Leu Leu Leu Ser Thr Cys
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Phe Ile Ala Ser Cys Val Val Thr Tyr Gln Phe Ile Met Asp Gln Pro
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<210> 65

<211> 130

<212> PRT

<213> Mus sp.

<400> 65

Ser Arg Arg Leu Tyr Glu Leu His Thr Tyr His Ser Ser Leu Thr Cys
 1 5 10 15

Phe Ser Glu Gly Thr Met Val Ser Glu Lys Met Trp Gly Cys Cys Pro
 20 25 30

Asn His Trp Lys Ser Phe Gly Ser Ser Cys Tyr Leu Ile Ser Thr Lys
 35 40 45

Glu Asn Phe Trp Ser Thr Ser Glu Gln Asn Cys Val Gln Met Gly Ala
 50 55 60

His Leu Val Val Ile Asn Thr Glu Ala Glu Gln Asn Phe Ile Thr Gln
 65 70 75 80

Gln Leu Asn Glu Ser Leu Ser Tyr Phe Leu Gly Leu Ser Asp Pro Lys
 85 90 95

Val Met Ala Asn Gly Asn Gly Ser Met Ile Leu Leu Ser Val Lys Met
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Ser Gly Ser Gly Thr Pro Met Asn Pro Ile Phe Gln Lys Ser Gly Val
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Phe Gln
 130

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<210> 70
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 <211> 1252
 <212> DNA
 <213> Mus sp.

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gggtgcaggaa agacaatccc aaggggaagg agtctgctgg accctgagac tctgggtcagc 240
tgctgtgatt tccatgttac tcttgagtac ctgtttcatt gcgagctgtg tggtgactta 300
ccaatttatt atggaccagc ccagtagaag actatatgaa cttcacacat accattccag 360
tctcacctgc ttcagtgaag ggactatggt gtcagaaaaa atgtggggat gctgccccaa 420
tcaactggaag tcatttggtt ccagctgcta cctcatttct accaaggaga acttctggag 480
caccagtgaag cagaactgtg ttcagatggg ggctcatctg gtggtgatca atactgaagc 540
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caggttcttg caccctcatg aaccaatct tccagaagag cgggtgtgtt caatagttta 720
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atgtgaaatg aagaagattt acctatgagt gcctgttatt cattaatatc tttaaagttc 840
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<210> 72
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<212> DNA
<213> Mus sp.

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taccaattta ttatggacca gccagtaga agactatatg aacttcacac ataccattcc 180
agtctcacct gcttcagtga agggactatg gtgtcagaaa aaatgtgggg atgctgcca 240
aatcactgga agtcatttgg ctccagctgc tacctcattt ctaccaagga gaacttctgg 300
agcaccagtg agcagaactg tgttcagatg ggggctcctc tgggtgggat caatactgaa 360
gcgagcaga atttcatcac ccagcagctg aatgagtcac tttcttactt cctgggtctt 420
tcggatccac aaggtaatgg caaatggcaa tggatcgatg atactccttt cagtcaaat 480
gtcaggttct ggcaccccc tgaacccaat cttccagaag agcgggtgtg ttcaatagtt 540
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atatgtgaaa tgaagaagat ttaccta 627

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<210> 73
<211> 590
<212> PRT
<213> Mus sp.

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515

520

525

Tyr Thr Arg Pro Ala Ser Asn Ala Ser Pro Val Ala Leu Pro His Glu
 530 535 540

Cys Tyr Ser Ala Ser Pro Ser Glu Arg Leu Tyr Ser His Ile Ser Ala
 545 550 555 560

Ser Asn Ser Glu Arg Ile Leu Glu Cys Tyr Ser Gly Leu Met Glu Thr
 565 570 575

Leu Tyr Ser Leu Tyr Ser Ile Leu Glu Thr Tyr Arg Leu Glu
 580 585 590

<210> 74

<400> 74

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<210> 75

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 <213> Homo sapiens

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 acaaggagct ggctttgggc taggctgctc cttgcctatg attggggaag gttaaaccctc 180
 tacagggtct atgtatgtgg aaactgttgg aacctgatt aaatgggatg gacttcactt 240
 aacctcttgg gatttccaat attatgtttg agtaaaagaa ctgctatcca caaacaccat 300
 taatccttta gggaggcaga aaaggccaga atgcaaagcc atcttttcat tacactaggg 360
 tctgtctttt tacttctctg ggcttttatc tggggaggggc atgtttcccc cacttggaac 420
 agtgagcctg gccaggacag taacctgtgg gcttgtgatg acattatttc taatagggaa 480
 tgggaaagga tgtagcttc tcaggtttta aagtgtcctg gaggagaaga gaaaggacga 540
 catgagaagg agacaatgaa gaagatgggt gagggggaga tagtgtaaga ccctgagaat 600
 ggcatagggt aaaactggga cagagatact gtgggagAAC gatagctgca gagggacaga 660
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 ttcataagaa gacaaagaac ccaataaaaa tgggcaacag ataccacaga agatgatata 780
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 cctgaccaac atggtgaaac cctgtctcta ctaaacatac aaaaattagc tgggggtggg 1020
 ggcattgcgc tgtaattcca gctactcagg aggctgaggc aggagaatcg cttgaacca 1080
 ggaggcagag attacagtga gccgagatca tgcccttgca ctctagcctg ggtgacagag 1140
 cgagactctg tcttaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aagggcggcc 1200
 gc 1202

<210> 82
 <211> 255
 <212> DNA
 <213> Homo sapiens

<400> 82
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 gcttgtgatg acattatttc taatagggaa tgggaaagga tgtagcttc tcaggtttta 180
 aagtgtcctg gaggagaaga gaaaggacga catgagaagg agacaatgaa gaagatgggt 240
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<210> 83
 <211> 85
 <212> PRT
 <213> Homo sapiens

<400> 83

Met Gln Ser His Leu Phe Ile Thr Leu Gly Ser Val Phe Leu Leu Leu
1 5 10 15

Trp Ala Phe Ile Trp Gly Gly His Val Ser Pro Thr Trp Asn Ser Glu
20 25 30

Pro Gly Gln Asp Ser Asn Leu Trp Ala Cys Asp Asp Ile Ile Ser Asn
35 40 45

Arg Glu Trp Glu Arg Met Leu Ala Ser Gln Val Leu Lys Cys Pro Gly
50 55 60

Gly Glu Glu Lys Gly Arg His Glu Lys Glu Thr Met Lys Lys Met Gly
65 70 75 80

Glu Gly Glu Ile Val
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<210> 84

<211> 23

<212> PRT

<213> Homo sapiens

<400> 84

Met Gln Ser His Leu Phe Ile Thr Leu Gly Ser Val Phe Leu Leu Leu
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Trp Ala Phe Ile Trp Gly Gly
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<210> 85

<211> 62

<212> PRT

<213> Homo sapiens

<400> 85

His Val Ser Pro Thr Trp Asn Ser Glu Pro Gly Gln Asp Ser Asn Leu
1 5 10 15

Trp Ala Cys Asp Asp Ile Ile Ser Asn Arg Glu Trp Glu Arg Met Leu
20 25 30

Ala Ser Gln Val Leu Lys Cys Pro Gly Gly Glu Glu Lys Gly Arg His
35 40 45

Glu Lys Glu Thr Met Lys Lys Met Gly Glu Gly Glu Ile Val
50 55 60

56